2005 Issue II

CENTRAL REGION ENVIRONMENTAL NEWSLETTER

CENTRAL REGIONAL ENVIRONMENTAL OFFICE

US ARMY ENVIRONMENTAL CENTER

Mr. Raymond Fatz, Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health Announces Retirement

From Staff Notes

US Army

Mr. Raymond (Ray) J. Fatz announced his retirement after longtime service to the Army and to the United States. Mr. Fatz became the Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health (DASA(ESOH)) on August 18, 1996 where he provided executive leadership in the Department of the Army to ensure timely compliance with environmental, safety and occupational health mandates. Mr. Fatz' contribution as DASA(ESOH) have been and continue to be significant.

Some of Mr. Fatz' accomplishments are listed below:

- Leading the redesign of the $1.3 billion Army Environmental Program to improve organizational inter-relationships between the Secretariat and Army Staff to meet the goals of Army Transformation and improve environmental performance in accordance with the President's Management Agenda.
- Overseeing the Army's environmental program that became a leader in environmental compliance and stewardship. Mr. Fatz' insistence on open, honest communications between the Army and the regulatory communities set a positive tone as the parties began focusing on real issues and innovative solutions.
- Acting as "Chief Architect" for one of the latest reforms for research and development within the Environmental Quality Technology arena Responding to the Administration's Government Performance and Results Act (GPRA). In this regard, Mr. Fatz orchestrated the first technology investment strategy in 1997. The cornerstone of this reform rests with the prioritization and return-on-investment methodologies sanctioned by the Office for Financial Management.

- Overseeing the development of the Army's first measurable results-oriented Cleanup Strategy and Strategic Plan to implement the President's Management Agenda and Government Performance Review Act. The Army Cleanup Strategy was published in April 2003 and Army Environmental Cleanup Strategic Plan was published in May 2003 with an update in January 2005. The Strategy and Strategic Plan provide for implementation of the DOD Environmental Management System as well as compliance with ISO 14001 which was unique to the Army. Moreover, he established first-ever targets and objectives for Army Active sites, BRAC, FUDS, and Environmental Compliance Cleanup.
- Leading safety and occupational health efforts with an emphasis on well-being of Soldiers and their families and Army Civilians resulting in the establishment of a comprehensive safety and occupational health program. Mr. Fatz developed and directed the Army's safety and occupational health program to support Soldier readiness, Army transformation, and DA civilian and contractor employees. He provided the requisite leadership to ensure safety and occupational health is integral to all Army program areas,

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In This Issue

Chief Commentary

Bart Ives - *CREO Chief/DoD Region 7 REC*
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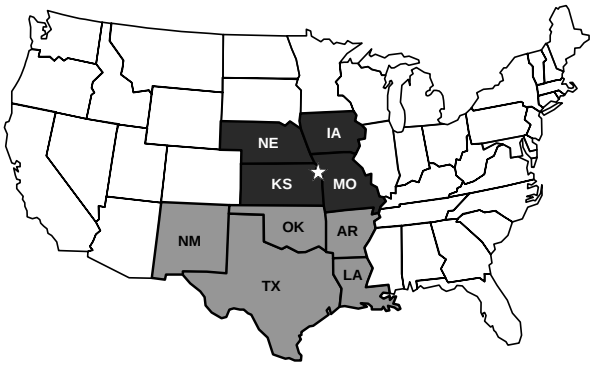
HAPPY 10th BIRTHDAY ARMY REGIONAL ENVIRONMENTAL OFFICES !!

As I mentioned in my last "Chiefs Commentary", when the Army Regional Environmental Offices (REO's) were set up ten years ago, the premise was that the Environmental Protection Agency's regional offices would be our primary focal points. As noted, that has not turned out to be the case. Naturally, the program has evolved over time, but in the last couple of years the Army REO's have really matured into a niche organization operating in lanes that no one else does. We've gone from basically a "reactive" posture of simply monitoring state level rule-making and legislative developments to a posture of actually trying to educate and influence audiences on state, regional, and national levels. Of course, the focus varies from Army REO to Army REO, but in general about 50 % of our effort is devoted to executing our Environmental Legislative/Regulatory Analysis and Monitoring Program – State (ELRAMP-S) which I mentioned in my last commentary. Another 25 % of our time is devoted to "partnering" and Outreach." Examples of these would be the state/DOD partnering efforts or DOD partnering with national organizations such as the Environmental Council of States (ECOS). Outreach would include spreading the DOD message on certain topics such as perchlorates, range assessments, or legislative initiatives. And last, but certainly not least, we spend roughly 25% of our time and effort in direct support to installations, when so requested. Such an effort may involve resolving issues with the regulators or assisting an installation in gaining access to other resources within DOD. We've certainly come a long way in the last few years, and all of us here at the Army CREO look forward to assisting our Army installations in any way we can to sustain their mission capabilities in an environmentally compliant manner.



CREO Nine-State Area of Responsibility

DoD REC Region 7
Army REC Region 6
Army REC Region 7

Regional Events Calendar

7/26 Southwest Strategy Borderlands Management Task Force, Tucson, AZ.

7/27-29 13th Annual Missouri Environmental Conference at the Lake, Osage Beach, MO.

7/28 Southwest Strategy Border Task Team, Phoenix, AZ.

7/19-21 Texas Air Workgroup, Corpus Christi, TX.

8/1-5 Integrated Training Area Management Workshop, Indianapolis, IN.

8/9-12 Texas Environmental Partnership Meeting, San Antonio, TX.

8/18-20 Region 7 Local Emergency Planning Committee 9 (LEPC), Kansas City, MO

8/23-26 2005 Kansas Environmental Conference, Wichita, KS.

8/22-25 Second Conference on Sustainable Range Management, San Antonio, TX.

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Fort Polk Successfully Completes Installation Restoration Program

By Dennis Takade and Scotty Goins

CREO, Kansas City , MO and Fort Polk, LA

Fort Polk, Louisiana, a key training installation for Army airborne, Ranger, and Special Operations forces and others, consistently demonstrates environmental excellence. Clear evidence of Fort Polk's performance was documented as the result of its most recent Army Environmental Performance Assessment System (EPAS) audit. Fort Polk received a "zero negative findings in the hazardous waste media area" which was a first for the Army and "no negative findings in a military area" for a second consecutive external assessment. This finding was another first for the Army.

Fork Polk has achieved another important environmental milestone; the successful completion of its Installation Restoration Program (IRP).

It all began in 1983, when an Installation Assessment was conducted to determine past and current use of hazardous materials as well as the potential for these substances to migrate off site. While there was evidence of contamination on site, the assessment determined that off-post migration of contaminants via surface water or groundwater was not evident.

An Installation Action Plan (IAP) was developed and periodically updated to outline a total multi-year Installation Restoration Program for the installation. The IAP identified environmental cleanup requirements at each site or area of concern, and proposed a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

Placing intermediate soil layer over geocomposite membrane. *Photo courtesy of Fort Polk.*

Mill Creek Landfill after remediation. *Photo courtesy of Fort Polk.*

A summary of activities since 1983 is given below:

- The IRP Executing Agencies were the U.S. Army Corps of Engineers, Southwestern Division - Fort Worth District and Southwestern Division - Tulsa District; and the U.S. Geological Survey
- Regulatory participation included the U.S. Environmental Protection Agency (EPA), Region VI, Federal Facilities Branch, Dallas, Texas and the Louisiana Department of Environmental Quality (LDEQ), Baton Rouge, Louisiana.
- More than 40 studies and actions have been completed.
- No enforcement actions or Notices of Violation (NOVs) have been issued against Fort Polk's IRP sites.
- Twenty one sites have been categorized as requiring "No Further Action" by the Installation Restoration Program.
- Many of the investigations and closures used a risk based methodology.
- No NPL sites were designated at Fort Polk.

Of particular interest is the Mill Creek Landfill because it is an excellent example of the effort and coordination that the Fort Polk/IRP executing team put forth. This is an abandoned landfill that encompasses approximately 400 acres. It is located north of Mill Creek Road in the South Fort Polk Cantonment Area.

The Mill Creek Landfill was developed as a series of disposal trenches. An initial contamination assessment indicated that groundwater, surface water, soil, and sediment were contaminated with organics, pesticides, nitroaromatics and metals. Not only was the contaminated but it was also located in the habitat zone of an endangered species, the Red-Cockaded Woodpecker. This site is also a recharge zone for a regional sole-source aquifer, which is used for drinking water.

At the beginning of the project, preliminary estimates put the costs at approximately $90 million to implement all closure activities in accordance with EPA regulations and requirements.

The Mill Creek Landfill investigations began in January 1995 and were completed in October 1997. Samples were collected from creek water and sediment, seeps, groundwater, and soil borings. Sample results indicated that action levels were exceeded for explosives and metals in soil; pesticides, herbicides, metals, and explosives in groundwater; pesticides in creek water; metals in creek sediment; and pesticides and metals in seeps.

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Fort Bliss Continues on Path of Environmental Excellence – E85 Pumps Installed and Operational; HazMart Doing Business as Usual and More

Ethanol Based E85 Alternative Fuel Comes to Fort Bliss

By Jesus Moncada, Air Program Manager

Directorate of Environment, Fort Bliss

In December 2004, Fort Bliss commemorated the opening of the first E85 ethanol vehicle fueling station in the El Paso County area. The Fort Bliss E85 fuel station is the third of its kind on a federal facility in Texas. The ethanol dispensed from the fueling station is a mixture of the 15 percent unleaded gasoline and 85 percent ethanol hence the term "E-85." The ethanol fueling station located at Fort Bliss will support over 150 flexible-fuel vehicles.

Ethanol is an alternative fuel like propane and natural gas, but is made from corn or corn by-products which are renewable resources. Like propane and natural gas, ethanol burns much cleaner than unleaded gasoline, thereby releasing less tailpipe emissions such as NO_x, and carbon monoxide.

Moving to E85 serves a dual purpose: first, promoting cleaner air and second, reducing the dependency on imported crude oil. It also assists in reducing tailpipe emissions of air pollutants.

Newly installed ethanol based E85 fueling station. *Photo courtesy of Fort Bliss.*

The Environmental Protection Agency designated El Paso area as non-attainment because air quality cannot meet Federal clean air standards for ozone, carbon monoxide and particulates. Therefore, the switch to cleaner burning E85 will help to reduce atmospheric pollutants.

Soldiers fueling an E85 compatible alternative fuel vehicle. *Photo courtesy of Fort Bliss.*

Moreover, the fueling facility is an important step for the installation in meeting the requirements of Executive Order 13149. This EO calls for the support and usage of alternative fueled vehicles and alternative fuels at all federal facilities. Using an alternative fuel not only demonstrates a commitment from the U.S. Army as an environmental steward, it additionally reduces air pollution and dependency on foreign crude oil.

Robert Galindo, Fort Bliss transportation manager, hopes to include other federal agencies like the International Boundary and Water Commission as E-85 users.

Construction of the facility began in late 2003 under an initiative taken by Mr. Galindo to refurbish an excess diesel fuel tank. Although the construction took a few weeks, the growing pains of dispensing the new fuel took longer because E-85 is a corrosive material that needs special equipment to store and dispense the fuel.

Future prospects for Fort Bliss include expanding the alternative fuel program to include a public-government partnership for a compressed natural gas (CNG) fueling station and bio-diesel fuel for heavy, non-tactical vehicles like construction equipment. Bio-diesel is a mixture of soy bean oil, a renewable resource, and diesel fuel.

"With the addition of E-85.….Fort Bliss has stepped up its commitment to the El Paso community," stated Clean Cities Coalition member Carlon Bennett, "not only playing a leadership role in protecting our nation but also in defense of our natural resources. Energy diversity is key to the long-term security of our nation, and Fort Bliss is leading the way. With future plans to utilize compressed natural gas and bio-diesel, Fort Bliss will be one of the most energy diverse military installations in the world."

Garrison Commander COL Bryon Greenwald provided the keynote address and was one of several to cut the ribbon officially opening the fueling station. Attendees included City Representative Robert Cushing, Archie Clouse, Regional Director, Texas Commission on Environmental Quality and Clean Cities Coalition members Troy Hicks and Carlon Bennett. Other dignitaries included representatives of the U. S. General Services Administration and various offices on Fort Bliss.

HazMart Supports Fort Bliss Spring Clean-up

From Staff Notes

PAO Fort Bliss

On April 30, 2005, Fort Bliss' HazMart was open for business in support of the Fort Bliss Spring Clean-Up event. The HazMart, a subsidiary of the Directorate of Public Works and Logistics (DPWL) operation, and in cooperation with the Directorate of Environment, operates a Household Hazardous Waste (HHW) program to go along with it's duties in regards to its normal recycling and "zero balance" hazardous waste program. The purpose of the HHW program is to provide a better way for the people on Fort Bliss to dispose of their household chemicals and discarded toxic materials.

Warehouse Leader emptying small container into used oil storage drum for proper recycling/disposal. *Photo courtesy of Fort Bliss.*

Proper disposal of HHW also demonstrates Fort Bliss' commitment to the community and leadership in environmental management. The program not only reduces waste, but also gives back to the community. This program supplements the aggressive environmental effort at Fort Bliss, and sets the standard for other installations to follow.

The program is operated by the Fort Bliss HazMart staff. It consists of collecting, sorting and consolidating household chemical products, then offering the material at no cost to all valid military ID card holders. No fees are charged for this service because it is supported by the Environmental Office.

The sources of HHW are households located within Fort Bliss and off base military housing that is assigned to Fort Bliss personnel. The approximate Fort Bliss residential population is 8,500 with about 3,300 households that are located within the boundaries of Fort Bliss and others that are located in El Paso.

In terms of recycling, the HazMart will re-issue any material collected in its original container with a legible label or that is otherwise readily identifiable and which has been determined by the HazMart technician to be in a usable condition. The HazMart will reissue HHW to any valid military ID cardholder. These items include all usable water-based paint, enamel paint and thinner and paint spray cans.

The collection of HHW not only provides savings to the military community through the free-issue program, but also serves as a way to properly collect items for proper disposal. The HazMart serves as the central collection point for most every household waste except fluorescent tubes, which are handled separately.

This service provided to Fort Bliss is a natural out growth of the HazMart program that had its beginnings in February 1998. During its first of year operation, the HazMart is estimated to have saved approximately $200,000 in hazardous-waste disposal costs by extending the shelf life of $34,000 worth of material. The post estimates an annual savings of $200,000 in hazardous-waste disposal costs, thanks to other shelf-life extensions, proper storage conditions, an operating reuse center and fewer hazardous-material purchases.

HazMart re-useable item storage facility. The items consist primarily of paints. *Photo courtesy of Fort Bliss.*

Technicians conducting inventory of re-useable items. *Photo courtesy of Fort Bliss.*

Matters of Interest to All DoD Components

NCSL Hosts State Legislator Tour of Fort Carson

By Stanley Rasmussen
CREO Regional Counsel

On June 14, 2005 lawmakers from Arkansas, Colorado, Kansas, Texas and Utah toured Fort Carson to learn about encroachment issues potentially affecting the sustainability of military installations and to collaborate with one another to learn more about how they may address such issues in their state. Legislators representing states in CREO's area of responsibility included Arkansas Speaker of the House, Representative Bill H. Stovall, III and Arkansas Senator Jerry Taylor, Kansas Representative Tom Sloan, and Texas Representative Wayne Smith.

Walker family discussing the proposed conservation easement agreement they are discussing with the Army. *Photo courtesy of CREO.*

Sponsored by the National Conference of State Legislators (NCSL), the purpose of the Ft. Carson visit was to attend the "Range Sustainability and State Land Use Options Workshop." The workshop provided attendees the following:

- a firsthand view of military base operations and training needs,
- an understanding of how land conservation strategies can protect agricultural land and open space while at the same time serving as important buffers for the military installation, and
- an opportunity to discuss state and local policy options to more effectively manage growth to protect neighboring residents, preserve natural resources, and sustain the military mission.

The day started with an initial breakfast briefing followed by a tour of Ft. Carson. Workshop participants observed live fire training, including tank gunnery, and were able to see firsthand how unchecked residential development in the vicinity of the range was encroaching on vital training activities. Moreover, lawmakers were able to see the proposed Walker Conservation Areas to the south of Fort Carson and talk with the Walker family about their experiences in working with the Department of Defense (DoD).

After lunch in a field mess hall, legislators returned to their hotel for an additional talks with members of the Department of Defense, The Nature Conservancy, County planning and zoning officials, the local Chamber of Commerce, NCSL staff, and Colorado Senator Doug Lamborn, who had successfully sponsored encroachment legislation during the 2005 session of the Colorado General Assembly. These discussions allowed each party to explain the role their organization had in helping Fort Carson address its encroachment and sustainability issues and provided the various state legislators an opportunity to ask questions of the speakers to learn more about how to apply their "lessons learned" back in their own state.

Look for an article discussing encroachment legislation in a future edition of this publication.

Texas Representative Wayne Smith and his wife Brenda. *Photo courtesy of CREO.*

Kansas Representative Tom Sloan (right) with the CREO Regional Counsel (left). *Photo courtesy of CREO.*

Southwest Strategy Changes Organizational Structure and Business Processes

From Staff Notes, By James Mayer

Project Manager, Versar, Inc.

During its recent retreat in March 2005, the Southwest Strategy (SWS) Regional Executive Committee (REC) renewed its commitment to the SWS mission to "facilitate collaborative, scientifically based approaches to enhance community vitality and resolve resource conservation and management issues in the Southwest" through the cooperative effort of federal, state, tribal and local governments

Federal partners include the Department of Defense, an active partner in SWS that continues to support it's efforts, Department of Interior, Department of Agriculture, USEPA and others.

The committee reexamined, in light of tightened budgets, staffing, and workload, how to best achieve agreed upon goals by modifying the SWS organizational structure and business processes.

The goal of the modification is to allow SWS to continue to provide an effective forum for executives to meet, exchange information, strengthen relationships, and take specific actions to help deliver a sustainable future.

Flight over the Alamogordo, NM, bombing range before the start of Exercise Roving Sands 97. New Mexico is a SWS member state. *Photo courtesy of DoD.*

A few of the key messages that emerged from the March 2005 meeting are as follows:

- These times of tight budgets require the SWS to evolve and streamline its organizational structure and processes to put more resources toward "on-the-ground results."
- The Regional Executive Committee will transition to a Regional Executive Forum (REF) by Fiscal Year 2006 to ensure that the SWS continues to be a forum for government executives to meet.
- Regional Executives are taking a long-range look at the forces driving change in the Southwest and taking a more active role in the work of the Strategy.
- REF members will assume the responsibility for accomplishing all necessary tasks to ensure continuation of the SWS mission.
- Participating Federal, Tribal, State and state associations of counties executives re main committed to the SWS's Mission.
- Task and Support Teams: Existing teams will remain in place to complete priority tasks (through FY05 and as appropriate in FY06).
- The SWS is committed to maintaining strong Tribal relationships. Therefore, the SWS Tribal Relations Support Team will be retained and will continue its good work. Tribal Relations Support Team (TRST) will continue as a team following their current structure and charter.

Archeologists from Luke Air Force Base, a SWS participant, photograph and check GPS coordinates of ancient petroglyphs on the Barry Goldwater Range. *Photo courtesy of DoD.*

These modifications are detailed in the March 2005 REC Executive Summary and are designed to ensure that the important work the SWS has accomplished over the last seven years and that the partnerships that have been established will continue.

Transition to the REF is designed to ensure that the SWS won't lose that which has made SWS successful. The continued focus on creation of a sustainable future for the Southwest and increased community involvement and vitality by allocating scarce resources to address the most critical issues.

A copy of the Executive Summary is available at the SWS website at www.swstrategy.org. If you have any questions about the transition please contact Beth Oms, SWS Executive Director, at (505) 248-6914, or at Elizabeth_Oms@fws.gov.

Installation of the synthetic geomembrane over clay cover. *Photo courtesy of Fort Polk.*

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A RCRA Corrective Measures Study (CMS) and Baseline Human Health and Ecological Risk Assessment were completed for the Mill Creek Landfill and submitted to the LDEQ in 1999. Based on the results of these reports, a clay cap was selected as the remedy.

After a great deal of effort, Fort Polk officials and engineers developed a plan that moved any "objectionable" waste material from the trenches to the old, existing capped area where a new cover system was installed. As a result, the more than 400-acre landfill was consolidated into a little more than 30 acres of covered area.

The closure was accomplished a year ahead of time and for less than $10 million ($80 million below the original programmed cost estimate). For example, nearly two million dollars was saved by simply using an appropriate clay and soil mixture located nearby to cap the landfill.

"Our focus at the inception of this project was to do the right thing," said Scotty Goins, Fort Polk restoration manager. It included looking at all engineering aspects and cost-saving measures that could be incorporated, and reaching consensus with all parties." "In respect to our project completion, I feel that we have accomplished our goal," he further added.

The team also made money for the Army's forestry program by selling salvageable timber gleaned from preparing the areas for cleanup. Forty percent of the net proceeds from marketing the timber was donated in support of the local community schools.

It should be noted that an aggressive risk assessment approach in conjunction with the Louisiana Department of Environmental Quality eliminated the requirement of performing any groundwater treatment activities at the Mill Creek Landfill. The only requirement is limited Long Term Monitoring to ensure cap efficiency.

Other notable IRP sites completed at Fort Polk include:

- Chemical Agent Burial Ground - the site was capped and groundwater monitoring put into place. After 3 years of not detecting any contaminants of concern, the groundwater monitoring was halted and the area returned to Range Control. The down-range area was protected by a constructed soil berm.

Construction of anchor trench. *Photo courtesy of Fort Polk.*

Installation of permanent erosion control matting. *Photo courtesy of Fort Polk*.

- Former Burning Ground - UXO removed as well as objectionable soils [high lead content] and the area recovered and with groundwater monitoring. After 3 years the groundwater monitoring was halted.
- Former Ammunition Supply Point – the site was found to contain elevated concentrations of lead but a risk assessment approved by LDEQ indicated that no further action would be necessary.
- Construction Debris Landfill – the work activity employed an innovative approach to keep leachate from exiting the landfill area by intercepting the water in a seep management system. The initial investigation and sampling indicated an ecological risk of lead contaminated surface water. The constructed seep management system integrated a series of underground perforated piping that did not allow the lead contaminated water to surface until it passed through an entire system of piping, allowing the metals to fall out. All sampling shows that the surface water is now below the risk evaluated limit. This approach saved several million dollars in that the landfill was not required to be recapped with an engineered cover system.
- Avenue K Mogas Facility – the contaminated soils were excavated and moved to the facility's soil recovery area. This approach saved soil disposal costs for several hundred cubic yards of contaminated soils.

The completion of the Installation Restoration Program at Fort Polk brings the Army one step closer to meeting its goal of cleaning up its locations by the end of fiscal year 2014. With this completion, the Army has achieved 90 percent of its cleanup goal.

Establishing permanent vegetation cover. *Photo courtesy of Fort Polk.*

Combat Trail Maintenance Program: A Road to Success at Fort Sill

By Steven Gehfeld, Eric Webb, & Justin Kretzer
ITAM Team, Fort Sill, OK

Fort Sill, the home of the US Army Field Artillery Center and School, is located in southwest Oklahoma. With 94,000 acres of training lands and cantonment area, Fort Sill is the largest field artillery training complex in the world and provides the U.S. Army with one of its most valuable resources.

The fact is that Fort Sill supports two highly important priorities of the U.S. military: training and environmental protection. Installations with enough land to support tactical maneuver by the M109 Paladin Self Propelled 155 mm Howitzer, the Multiple Launch Rocket Systems (MLRS), and other heavy and light support vehicles are limited and must be protected so that future training is not jeopardized. Fort Sill's military equipment is now larger and heavier than earlier weapons systems and tactics require more maneuver training.

Combat trail prior to repair and maintenance. *Photo courtesy of Fort Sill.*

In the past, many combat trails were constructed on Fort Sill without the benefit of long range planning in regard to location, long-term stability, or erosion control techniques. Many trails were created along drainage areas by units conducting training exercises. Once created, these trails were subjected to re-use. This scenario eventually resulted in a somewhat random network of trails, often in locations that had highly erodible soils, rugged terrain, and vegetation that recovered slowly.

Because of Fort Sill's training mission and the nature of the land features, training land maintenance is a major responsibility of Fort Sill's Integrated Training Area Management (ITAM) team.

To keep pace with soil erosion, trail degradation, and land destruction, the Fort Sill ITAM team developed a Combat Trail Maintenance Program (CTMP). The long-term goal of the CTMP is to establish quality access trails throughout all heavily used training areas.

The first phase of this project has been completed. The work consisted of identifying a major north-south and east-west thoroughfare within each training area, assessing current conditions and assigning a damage ranking, creating a Geographic Information System (GIS) database, and periodically resurveying and updating road condition data.

The ITAM teams' strategy for the first phase began by examining existing road data and aerial photographs and evaluating which combat trails might qualify for the CTMP. Next, the team visually inspected the selected trails. Those trails that were impassable or that posed a safety hazard were prioritized for Land Rehabilitation and Maintenance (LRAM) revegetation and closure and were removed from long-term maintenance consideration.

The same combat trail after repair. *Photo courtesy of Fort Sill.*

During Phase One of the CTMP, Fort Sill GIS played a pivotal roll by providing a simple approach for creating and maintaining a database for the CTMP and providing a mobile GIS capability. While in the field, team members were armed with an HP iPAQ unit, complete with ArcPad GIS mapping software, that enabled recording and updating specific attributes, such as changes in location, conditions, and damage. (e.g. deep gullies, severe erosion, drainage issues, etc.). By utilizing mobile GIS capability, the ITAM team was able to create and update the GIS database and attributes "on the fly" thereby enhancing efficiency and data accuracy.

Highly eroded ditch to be included in combat trail maintenance program. *Photo courtesy of*

Currently, 56 trail sections and 28 associated low-water crossings are in need of repair. The estimated costs associated with this endeavor are approximately $2.8 million. As funding becomes available, repairs and periodic maintenance of the identified combat trails will include grading, crowning, and packing of the trail surface; constructing drainage ditches to minimize soil erosion and divert water from sensitive areas. Synthetic geotextile fabrics and rock will be used as needed to stabilize the trail base.

Completion of Phase One has given Fort Sill's ITAM team a significant tool that combined with other tools provides more efficient means of providing top quality training lands to its soldiers. The CTMP will allow the ITAM team to more effectively prioritize LRAM repairs of combat trails and minimize the danger to soldiers during maneuver training.

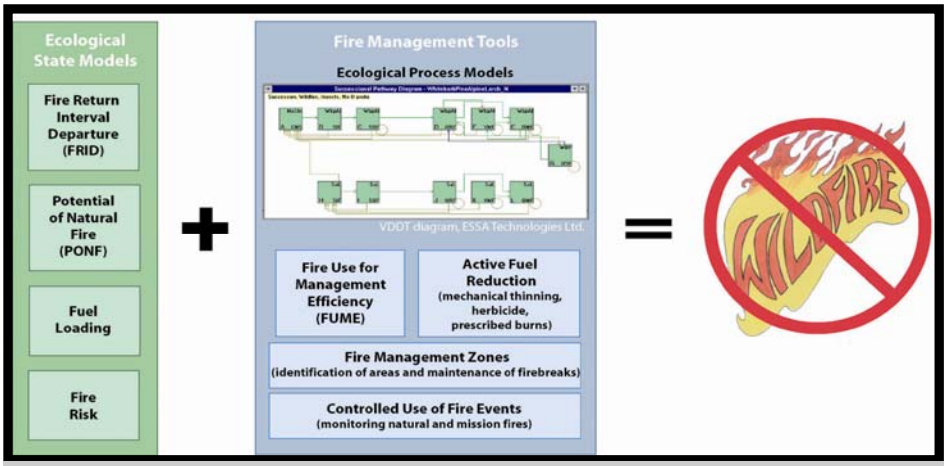
Cooperative Fire Management Planning Program Assists Range Sustainability at White Sands Missile Range

By Tim Christiansen and Deborah Nethers
The Nature Conservancy/ITAM, White Sands Missile Range, NM

White Sands Missile Range (WSMR) in New Mexico spans over 3,000 square miles of land that ranges from a high desert valley at 4,000 feet above sea level to wooded mountains at approximately 9,000 feet. Most of WSMR lies within the Tularosa Basin and is bound on the west by the San Andres, Organ and Oscura Mountains, and to the east by the Sacramento Mountains.

The vegetation within WSMR, like its surrounding physiographic setting, is very diverse and includes pinyon-juniper woodlands, desert grasslands, and scrublands. And like virtually all environments in the southwest, this area is prone to fire. In fact, vegetation within this region is dependent on fire to maintain a healthy ecosystem, including periodic build up of vegetation that fuels natural fires during dry periods followed by a low intensity fire.

The nature of the landscape and past history of high intensity wildfires requires cooperative effort for fire management on a site as large and diverse as WSMR. This cooperation is demonstrated by WSMR and The Nature Conservancy which in partnership manage the Integrated Training /Testing Area Management (ITAM) Program. ITAM Program funding was used in the development of a Strategic Fire Guide for Land Managers and Fire Fighters. This guide provides operational information on 53 variables relevant to maintaining or rehabilitating ecosystems for range sustainability and range integrity to support the military mission. Variables include models and Geographic Information System (GIS) based layers such as fuel loading, vegetation types, suggested fire fighting tactics, cultural resource protection, human safety, etc. for each of the 106 fire management units on WSMR.



Ecological state models and judicious use of fire management tools prevent wildfires on military ranges. *Figure courtesy of WSMR.*

The Environmental Stewardship Division of the WSMR Environment and Safety Directorate funded the development of the Integrated Wildland Fire Management Plan (IWFMP). Focusing on ecological processes and using natural and prescribed fire as a means for sustainable range

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The Army's Residential Communities Initiative for Military Family Housing Comes to Fort Riley

On May 5, 2005, the Army announced the selection of Picerne Military Housing, LLC as its partner for the privatization of military family housing at Fort Riley. Under the Residential Communities Initiative (RCI) Program, the Army is privatizing family housing at 45 major installations, containing almost 85,000 family housing units. This effort represents 90% of the Unites States Army family housing inventory.

Through the RCI Program, the Army places our nation's Soldiers and their families in world class quality communities that are environmentally friendly. RCI standards require that new buildings meet the SPiRiT gold standard, requiring sustainable design and development, that restoration of historic buildings meet the tenants of the programmatic agreement with respective State Historic Preservation Offices, and that renovations include using appliances that are Energy Star compliant. Landscaping standards require use of native plantings of trees and grasses and drought tolerant, xeriscape as appropriate. The partner must prepare and execute a landscaping plan for each RCI neighborhood that avoids construction in wetlands, has low maintenance requirements, retains existing vegetation to the maximum extent possible and passes an invasive species review.

In summary, RCI focuses on the total residential community, not just houses and allows the Army flexibility to expand or contract family housing unit numbers and types to accommodate re-stationing actions. Moreover, privatization of housing allows the Army to leverage private sector capital and appropriated funds to accomplish revitalization of inadequate family housing and to ensure sustainability over the 50 to 75 year life of the contracts.

American Eagle Communities Midwest, LLC was selected as the partner for Fort Leonard Wood's housing and Michaels Military Housing, LLC was selected as the partner for family housing located on Fort Leavenworth.

(Continued from page 10)

management, the IWFMP takes into account ecological management objectives as well as wildland fire policies for military mission support. The technically oriented IWFMP combines ecological models with fire management tools for planning and conducting baseline fire assessments for fire risks and conditions, and implementing fire activities. Ecological models include: 1) Fire Return Interval Departure (FRID); 2) Fuel Loading; and 3) Fire Risk Analysis. Fire management tools include: 1) Vegetation Dynamics Development Tool; 2) Fire Use for Management Efficiency model; 3) fuel model map; and 4) active fuel reduction activities.

Fire Department cutting crew reduces fuel for fire. *Photo courtesy of WSMR.*

The IWFMP and fire management models were developed to streamline fire management planning and implementation because of limited staff resources and time and are particularly useful for a noncontiguous landscape that contains a mosaic of ecosystem types. An example of a model developed for the IWFMP is a modified FRID model. This model is a computationally simple, yet robust, GIS based model to estimate the need for use of prescribed burning. FRID is based on the "natural" fire return interval (the historical interval between fires, in years) for the vegetation type of interest , and the years that have elapsed since the last fire. This information can then be used to develop management plans such as prescribed burns or other fuel reduction techniques in those areas most likely to result in devastating fires.

This model provides an easily updated guide to assist land managers in the assessment of potential vegetation responses to fire events ranging from small habitat to landscape scales as well as mosaic patterns of fire effects. As new fires occur, or as information regarding historic fires becomes available, one only needs to update the fire history dataset with GPS data of fire boundaries. This update will change the rating of FRID and will also include mosaic patterns of vegetation integrity due to fire effects.

The use of FRID, in concert with other models (such as fire risk models, fuel load data, fuel models and vegetation management models) are utilized in fire management planning to support sustainable use of current military missions and aid in creating future maneuver areas at WSMR.

FRID also helps in prioritizing where scarce labor resources and money can be better applied to achieve range sustainability management goals and objectives by identifying areas of high fire management concerns. This in turn may assist decision making for safety, mission requirements, mission support, facility management, watershed integrity, cultural resource protection, and natural resource protection including threatened and endangered species.

An erosion control dam using by-products of fuel cutting by the Fire Department, thereby reducing the cost of rehabilitating erosion effects. *Photo courtesy of WSMR.*

2005 White House Closing the Circle Awards for Outstanding Federal Environmental Stewardship

The 2005 White House Closing the Circle Awards for outstanding Federal environmental stewardship are coordinated through the Office of the Federal Environmental Executive (OFEE). These awards recognize Federal facilities and employees for innovative practices and programs that have improved environmental performance and conditions at Federal facilities. The OFEE also works to promote sustainable environmental stewardship throughout the Federal government by assisting agencies in integrating environmental considerations into their operations.

Winner, Military Recycling Category — Recycling Successes at Little Rock AFB, Little Rock, AR

The Little Rock Air Force Base (AFB) Recycling Center collected and recycled more than 3,000 tons of recyclable materials in 2004. The daily recycling rate for Little Rock AFB is 1.9 pounds per day per person, 0.5 pound better than the national average published by the EPA. In 2004, Little Rock AFB recycled more than 20,000 pounds of plastic and pulverized 35,000 pounds of glass. The base saved more than $10,000 last year by recycling 5,000 gallons of antifreeze and continued its ambitious used oil-recycling program by recycling more than 20,000 gallons of used oil. To date, the base has recycled more than 7.1 million pounds of asphalt, which is used in base roadways.

Honorable Mention — EMS Implementation, 132nd Fighter Wing, Iowa National Guard Des Moines, IA

The 132nd Fighter Wing, Iowa National Guard, won Honorable Mention for implementing an Environmental and Occupational Health Management System at the Des Moines Air Base.

(Continued from page 1)

from the Soldier in the field to civilian and contractor employees on Army garrisons.

- In direct support of the Global War on Terrorism and Soldier safety, Mr. Fatz co-hosted a Department of Defense deployment safety and health forum to gather and disseminate safety and health lessons learned for application to forthcoming deployments. This forum resulted in such initiatives as development of Army safety policy for proper handling of enemy munitions; development of wartime low-level radioactive waste policy for better handling procedures for Soldiers serving in theater; and the on-going collection and analysis of medical evacuation data from Operation Enduring Freedom and Operation Iraqi Freedom to better identify and control sources of injury and illness in Theater.
- Directing and negotiating an innovative agreement to transfer environmental cleanup responsibilities at the Presidio of San Francisco to the local Reuse Authority, in support of the President's Five Part Plan, allowing them to prioritize development and leverage Army cleanup dollars with developers. This was the first DOD Public-Private partnership resulting in a $150 million saving to the Army and the installation was immediately available for redevelopment for community use accelerating planned public reuse by 15 years and surpassing expectations of all stakeholders.
- Establishing a policy to implement the DOD/Army Ergonomics Program, the first ergonomic program to be implemented throughout DOD. This aggressive program has shown a reversal in the number of civilian and military related ergonomic injuries and resultant costs. Mr. Fatz further reduced injuries, illness, and associated costs by directing and successfully leading the Army's Civilian Resource Conservation Program in support of the Presidential Federal Worker 2000 Initiative and established goals to obtain reductions in accordance with the Federal Employee Compensation Act. .

These are but a few of Mr. Fatz' contributions to the Army during his tenure as DASA(ESOH). His efforts have made a positive lasting impact on the Army's ability to successfully perform both its peacetime and wartime missions.

CREO 2005 Issue II ENVIRONMENTAL NEWSLETTER

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Chief, CREO ..... **Bart Ives**

Mission: The CREO supports the Army and DoD mission through coordination, communication and facilitation of regional environmental activities. The Army REOs are part of a DoD network in which the Army, Air Force and Navy each has lead responsibility for mission implementation in the 10 Standard Federal regions. The CREO has DoD lead responsibility for Region 7 and Army lead responsibility for Regions 6 & 7.

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